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CONTENT AREA WRITING IN GRADES 5 THROUGH 8

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A Project  
Presented to the  
Faculty of  
California State University,  
San Bernardino

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In Partial Fulfillment  
of the Requirements of the Degree  
Master of Arts  
in  
Education: Reading Option

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By  
Michelle McNamara  
April 1993

CONTENT AREA WRITING IN GRADES 5 THROUGH 8

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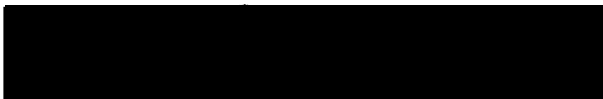
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By  
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April 1993

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## SUMMARY

A curriculum has been developed to improve the quantity and quality of student writing in math, science, and social studies. It is intended for teachers in grades five through eight, but teachers of any grade level may find activities they can adapt for use in their classrooms.

This project was designed to bridge the gap in curriculum between what is happening during writing workshop and the writing that occurs in the content areas. This is a practical curriculum that teachers can take to their classrooms and begin to implement the parts that meet their needs. It is a compilation of strategies that allow teachers to move away from traditional methods of writing in the content areas and towards more meaningful writing by students. It will also suggest ways teachers can turn their writing workshop into more than just something that is done in the morning for language arts and into something that encompasses all curricular areas.

This project is consistent with the whole language philosophy of learning. Strategies and suggestions in this project are consistent with the belief that students are natural learners, that learning is a social process, and that authentic assessment is essential. Their main purpose is to help children develop and improve their writing abilities and increase their learning.

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## INTRODUCTION

Most educators use the term curriculum as though it has a single, clear-cut meaning, easily understood by everyone. In fact it means different things to different people. There are two contrasting views of curriculum: the traditional model and the whole language model.

The underlying belief of the traditional model is that the teacher's main purpose is to pour knowledge into the heads of students while the students' main purpose is to be submissive and receive this knowledge (Short & Burke, 1991). This model is characterized by scope and sequence charts, text books, teacher's guides/editions, and district and state curriculum guides. Usually it is developed by "experts" outside the classroom.

In contrast the whole language model, while not ignoring district and state guidelines, is characterized by a different set of beliefs. Teachers in this model believe that learning is an active process and that students' needs should drive the curriculum. In this model teachers use their training and experience, not to direct, but to assist and support the students in deciding together what and how to study (Short & Burke, 1991). This model is characterized by student choice of material learned, real learning experiences, and it is developed by teachers in the classroom together with their students.

## STATEMENT OF THE PROBLEM

In traditional curricula, writing programs had teachers assigning a topic on Monday and collecting final drafts on Friday. In between students were expected to meet the teacher's criteria for what makes good writing. But recently the paradigm has shifted. Lucy Calkins, a leading researcher, states that teachers have gone from asking:

What are the forms of good writing? to What processes do writers use, what do children do when they write and how do those behaviors change as they grow older, and how do the behaviors of skilled and unskilled writers differ?(1986, p.14)

Thus, there has been a shift in focus from products to processes.

What has evolved from the work of Lucy Calkins, Donald Graves, Nancie Atwell, and others is a restructuring of the traditional writing curriculum into a "writing workshop". Writing workshop as defined by Atwell(1990) is when students are given time daily to write, ownership of what they write, and response to their written pieces. The writing workshop has been successful for a variety of reasons. Teachers who use the writing workshop understand that each child who comes to the workshop has concerns, ideas, memories, and feelings about which to write(Calkins, 1986). Another element that adds to its success is that the "content of the writing workshop is the



content of real life..."(Calkins, 1986, p.8). Donald Graves(1987) cites the reason for the success of Nancie Atwell's writing workshop as:

It is a full-immersion approach to reading and writing, an immersion not unlike the acquisition of a new language, here only the new language can be spoken. There is relevant, literate talks in this room; there are no canned lessons, assigned topics, workbooks, language arts textbooks, or the following of prescribed curriculum guides.(foreword)

Unfortunately the same attention given to the writing process in language arts has all but been ignored in the content areas. Nancie Atwell(1990) begins her book Coming to Know: Writing to Learn in the Intermediate Grades with an anecdote about her experiences with report writing in sixth grade. As a student, she was assigned to write a report on a country as demanded by the sixth grade curriculum. Her teacher assigned this report as homework and Nancie proceed to put off doing it until the weekend before it was due. She never turned it in and her sixth grade teacher never asked for it because the teacher put off correcting the reports until the end of the year. This is an all too common experience of students in the middle grades. The same researchers who have demonstrated the success of writing workshop also make the case for continuing these same practices into content-area writing. Calkins(1986) states that "students must learn to use the same drafting and revision process for their nonfiction writings that they use when working in any other genre"(p.288). Currently what

passes for writing in the content areas is short-answer, fill-in-the-blank, essay tests, and the ever popular written report. Atwell(1990) suggests rejecting these methods in favor of asking students to think and write as scientists, historians, and mathematicians. She proposes having students "use writing-as-process to discover meaning just as these scholars do..."(Atwell, 1990, p.xii). Classroom teachers, however, have not embraced these ideas with the same enthusiasm that they have given to the writing workshop. Currently there exists a gap in curriculum between the writing workshop and writing in the content areas. Teachers have not yet bridged the gap between what they do in the morning during writing workshop and what they do in the afternoon in science, social studies, and math. Ideally these activities would occur simultaneously. As Nancie Atwell(1990) puts it:

In the best of all possible worlds, language study might no longer be isolated as a separate subject in our curricula. Writing and reading workshop would become redundant because students and teachers would be writing and reading, everything all day long: poems, plays, stories, essays, lists, articles, autobiographical sketches, and journals about math, literature, history, the sciences, life.(p.xxi)

The purpose of this project is to provide a means of bridging this gap. This project will design a practical curriculum that teachers can take to their classrooms and begin implementing the parts that best meet their needs. It is not a cook-book that mandates method A be used before moving one to method B. Rather it is seen as being a

compilation of strategies that will allow classroom teachers to move away from those traditional methods of writing in the content areas and move towards more meaningful writing by students. It will also suggest ways teachers can turn their writing workshop into more than just something they do in the morning for language arts and into something that encompasses all curricular areas. The project will also contain a variety of methods teachers and students can use to assess their progress. It is hoped that this project will help teachers turn their classrooms into "a 'learning workshop' in which writing and reading are learned in the richest possible context and appreciated as tools of the highest quality for helping children come to know about the world"(Atwell, 1990, p.xxii).

## THEORETICAL FOUNDATION

There are three major models that describe reading instruction today. These are Decoding in which language is thought to be learned from part to whole, Skills in which language is thought of as a discrete set of skills that must be learned, and Whole Language in which language is thought to be learned from whole to part (Harste & Burke, 1977). Where teachers fit on this continuum depends greatly on how they believe children learn.

This project has as its foundation a belief that children are natural learners, that learning is a social process, and that assessment of children's learning needs to be authentic and broad-based (Short & Burke, 1991). It also contains the belief that children need authentic reasons for participating in reading and writing activities. These beliefs are consistent with the whole language philosophy of learning.

In the whole language model, language is learned as a process of communication. An important assumption in this model is that an understanding of function in language precedes an understanding of form. Students learn that language has a real function in the world by participating in activities that are authentic and have meaning to them. Teachers in this model teach the function and form of language through reading, writing, speaking and listening. Students in this model use reading, writing, speaking, and listening to gain knowledge about language. They then use this knowledge to make connections in their

world through reading and writing. Children learn to read by reading, and they learn to write by writing. They do not learn to read by practicing isolated skills on worksheets, nor do they learn to write by answering comprehension questions after reading a story.

Children are naturally curious and love to direct or assist in their learning process. The wise teacher will use this natural curiosity to help drive the curriculum. Children bring to the classroom different background experiences and therefore, they learn at different rates and learn best those things that mean the most to them. Due to these factors, students must be given some voice in regard to what and how to study. Teachers must value these differences and use them as a springboard to highlight strengths and de-emphasize weaknesses. In doing so students will be encouraged by being genuinely successful.

Learning is a social process. As Jenne Gossard said at a recent inservice, "Silent classrooms do not promote language growth." (1992). An essential element in this process is to allow students to work in collaborative efforts with other students in order to reflect on what they believe and to gain insights and perspectives from their peers. In this way their schema, or mental picture, is broadened and connections with other points of view are made. In short when students are allowed to share their knowledge and work with other students they learn more than they could alone.

When students have a voice in their own learning and are given time to reflect upon what and how they have learned things, they begin

to feel empowered. Students can reflect upon their learning through writing and sharing their knowledge with each other. This process includes feedback from other students as well as from the teacher. Assessment of student learning needs to be real or authentic. This assessment consists of two parts--student reflection/assessment and teacher assessment. The curriculum must not only allow time but encourage student reflection.

Not only must students assess their growth and development authentically, but also teachers must use real-life measurements. Assessment must neither be artificially sweetened nor soured by unnatural drill sheets or other means in which students repeat what someone else perceives the right answer to be without regard to connections with what the student brings to the learning process. Getting the "correct" answer provided in a teacher's guide is not important: connecting and adding to one's experiences is the key.

There will be consistency between the theory and practices in the project in the following ways. Strategies and suggestions in this project will be ones in which the above tenets of natural learning, social process, and assessment are clearly interwoven. Their main purpose will be to help children develop and improve their writing abilities and increase their learning. They will also be activities that have been used with success by this teacher and other teachers of similar philosophies.

## LITERATURE REVIEW

A paradigm shift demands a shift in curriculum. The current paradigm shift in writing curricula demands a change in how writing is taught in social studies, science, and mathematics. The literature reviewed here will address the following areas: 1) the underlying theory which drives the curriculum, 2) instructional practices that are consistent with theoretical beliefs including writing workshop, formal writing, and informal writing, and 3) assessment practices that are consistent with theory.

### THEORY

It is difficult to give an exact definition of whole language. To most people whole language is a way of referring to a set of beliefs about curriculum, not just in reading and writing, but one that encompasses everything that goes on in a classroom. These beliefs set the stage for all decisions made by the teacher.

Whole language educators have certain views about how language is learned. The first and foremost of these is that language is learned through actual use. Students learn language, whether it is oral or written, by really using language, not by doing artificial exercises or language-like activities (Edelsky, Altweger, & Flores, 1991). The next is that language learning is both social and natural. People are social by nature and it is this drive to communicate with others that allows

language learning to occur naturally. Edelsky, Altweger, & Flores(1991) maintain that learning written language is no less social or natural. In fact they state that: "Whether learning to read and write is achieved primarily through the use of environmental print or storybooks or both, it is the fact that written language functions in social contexts that makes learning it natural"(p. 17).

Whole language educators content there are universals in language learning that are constant from culture to culture(Edelsky, et al, 1991). These include the ideas that language acquisition occurs through use and that language development is social and natural. There is also a universal that states that language learning is a process of generating and testing hypotheses and in addition to this that mistakes are inevitable and necessary while generating and testing hypotheses.

Whole language teachers' common beliefs about language learning lead to beliefs about learning in general and about curriculum. Among these beliefs is the fact that learning is a social process. According to Judith Newman(1985) "...language development requires other language users to interact with; becoming a language user is a social activity"(p.32). In addition it is thought that learning is best achieved through direct engagement and experience(Edelsky, et al., 1991). For educators, "This means that schools should not be places to learn primarily what textbook writers say that previous scholars have learned; they should be places to do science as scientists do, places to do history as historians do, and so on"(Edelsky, et al., 1991. p. 25).



Another belief is that it is the learners' purposes and intentions that drives the learning. Whole language teachers try to encourage learning in which the learner's purpose has something in common with what is being learned. This means that the teacher's role should be to encourage students to find out about their own interests and in doing so a teacher would collaborate with students in shaping the curriculum (Edelsky et al, 1991). A final belief about learning is that it involves hypothesis testing. Children are continually asking questions about and then hypothesizing answers about the world around them. Often times their answers do not match adult answers, however, it should not be the role of educators to give students the so called "right" answers. Rather, teachers should provide students with the means to evaluate and revise their answers (Edelsky, et al., 1991).

#### INSTRUCTIONAL PRACTICES

There is literature that describes instructional practices consistent with a holistic curriculum. The literature suggests that when teaching writing in the content areas certain methods support using language in natural and social contexts. Three specific methods will be discussed: writing workshop, formal writing (reports of information), and informal writing (journals, logs, etc.).

## WRITING WORKSHOP

Children learn to write by participating in actual writing activities that have meaning to them. They do not learn by participating in writing exercises designed by a teacher or some outside expert that are intended to teach children how to write. Through the work of Donald Graves, Lucy Calkins, Nancie Atwell and many others, teachers have learned much about what children need to have when learning to write.

The first of these is time. Donald Graves(1991) says that children need to write at least four days a week for at least thirty-five to forty minutes. Nancie Atwell's students know that they will be writing everyday. When children have regular periods of time to write, they will begin to anticipate and plan for writing(Atwell, 1987). Writers also need time in class for writing when they can "think, write, confer, read, change their minds, and writ some more..."(Atwell, 1987, p. 17). Calkins(1986) concurs with this. She recommends one hour everyday for writing. When teachers schedule writing regularly, students can anticipate writing and begin to rehearse prior to school. When given regular, frequent time to write, students grow in their writing abilities. Students, when given time to take risks and reflect, will "begin to be able to consider what's working and what needs more work, to apply new knowledge and to take control"(Atwell, 1987, p.56).

Along with time, students need to be given the choice of what they are writing about. Time to write and choice of writing topics are closely tied together. According to Graves(1983) "...writing that occurs only once every two weeks limits the ability to make choices because it limits both the practice of writing and the exercise of topic selection"(p. 223). Atwell(1987) feels that from kindergarten students should be allowed to use writing to think about their own ideas and concerns. It is imperative that students be able to write about topics of their choice. Calkins(1986) says that "when we invite children to choose their form, voice, and audience as well as their subject, we give them ownership and responsibility for their writing"(p.6).

Students need to have ownership over their writing. A predictable environment allows students to have this ownership. Atwell(1987) sums it up this way:

Writers in a workshop can exert ownership because they're not waiting for the teacher's motivational pre-writing activity or directions for 'fixing' a piece of writing, instead, they're using the tools and procedures at their disposal to motivate and improve their own writing. Their writing belongs to them and they are responsible for it(p.64).

The timing of response is also significant. Writers need response to their writing during the composing process. Atwell(1987) contends that comments written at the end of a piece of writing assume that students read those comments and that they will then remember this advice and transfer it to a new piece of writing. Writing workshop

provides time for teachers to work with students on their writing. Conferences in writing workshop have a predictable pattern. In Atwell's(1987) class, students know that in a conference "I will wait, listen, tell what I heard, ask questions about things I don't understand or would like to know more about, ask what the writer might do next, and offer any options I might know of"(p. 70). During these conferences, a teacher focuses on content and in this way helps students add on to or begin drafts(Calkins, 1986).

In addition to time, ownership, and response, Atwell adds four other principles necessary for a successful writing workshop. The first is that mechanics are learned in context of a student's individual writing. Next, children need to see adults who they respect engaging in the messy process of writing. Third, writers need to read many different genres of literature. Last, teachers of writing need to take responsibility for their knowledge and teaching by staying current with research into children's writing(Atwell, 1987).

#### FORMAL WRITING

Content area writing can be used for more than just determining what children know. According to Bill Harp(1989) "Writing can make students aware of what they know, what they don't know, and what needs to be learned"(p.726). Children should be giving the same opportunities while writing in science and social studies as they have in writing workshop; that is they should be given time, ownership and response(Atwell, 1987). Only these should be

applied to writing expository texts. A challenge for teachers in content areas is to find a way to motivate students to choose to write expository texts(Harp, 1989).

In today's world of fast breaking scientific discoveries it is no longer acceptable for students to just memorize facts. In order to be truly knowledgeable, students "...need to analyze, synthesize, evaluate, and integrate the information they learn. Writing helps develop all of these skills"(Moore, 1989, p.106). Writing in the content areas is not as formidable as it sounds. It can be "simply a matter of extending the writing process beyond the writing table and applying principals and opportunities of the process to a variety of thinking situations"(Matthews, 1985, p.63).

Extending the writing process into the content areas can be an opportunity for a teacher to help students grow as learners. Writing provides students with a "...mirror to reflect their own thinking about the world..."(Moore, 1989, p.108). When students can express, in writing, the concepts they have learned in science, social studies, and math, teachers have a much more authentic way of assessing learning than previously used methods.

A majority of middle-school teachers rely on the written report to test knowledge in the content areas. Unfortunately these reports generally go no further than children using the encyclopedia to produce thinly veiled paraphrases or out right plagiarism. This process allows for no new discovery on the part of the student(Wilde, 1988).

Report writing can be a positive experience if approached right. Teachers cannot expect students to automatically know how to research. In order to create independent learners, Wilde(1988) contends that teachers "...must teach students how to go about gathering information, recording information, and presenting information and how to use the writing process to move beyond the encyclopedia format and voice(Wilde, 1988, p. 180).

Donna Maxim(1990) teaches her students note taking by reading aloud and afterwards having the students record all of the facts they remember. This activity is repeated many times before moving on to taking notes from printed material. Students begin the process of taking notes from printed material by generating a list of questions they think will be answered in a book. They then read the book away from desks and pencils. After reading, the students leave their books behind and go back to their desks. They begin note taking by recording the answers to any of their questions and adding any new information they recall. In this process students begin to take notes without copying.

Jack Wilde(1988) challenges his students "...to write in a way that reflects the commitment and involvement the student has with the information and that has an authentic audience"(p. 180). In order to do this, he encourages his students to present their information in away that is informative and interesting. They compare encyclopedia articles to other genres of writing and discuss what is and is not effective and

why. Students then pick a genre with which to present their information and begin a writing process similar to what they have done all year. Wilde feels that through this process his students "...are learning a purpose for writing-to communicate information- and at the same time understanding that purpose is only part of the task; I must not just inform, but inform well"(p.190).

Patricia Collins(1990) applied the same principles to a writing workshop in the content areas. She wanted students "...to explore topics other than their own experiences, yet still keep the writing personal and meaningful....to use the techniques that real authors use to produce research-based writing"(p. 18). In order to accomplish this she gave students time to become informed about a topic before choosing one to write on. After this, students were given class time to read and then take notes, but not at the same time. When students were finished with their research, they were given the choice of what genre they could use to produce a final form. Throughout this, Maxim(1990) conferred with students, showing them how to apply the same techniques they were using in writing workshop.

Formal writing includes any writing students take through a writing process and publish. Teachers of math are beginning to recognize how writing can help their students, especially with problem solving. Margaret Ford(1990) discovered that having students write their own word problems resulted in a more positive attitude towards problem solving and increased success with word problems. Students

created a file box of word problems that they had written, conferred about, revised, edited, and published. Students immediately began to take cards out and eagerly solved their peers' problems. Ford(1990) concludes that "...using the writing process as a strategy for problem solving seems to help students focus on the question being asked, look for essential information, and become familiar with the structure of the written problem"(p.38).

#### INFORMAL WRITING

In addition to formal, published writing, students need opportunities for informal, unpublished writing in the content areas as a means of articulating what they already know, what they have learned, and for asking questions. This writing generally takes the form of learning logs or journal entries.

Learning logs are usually spiral bound notebooks that last the whole year. Log entries "...are informal, tentative, first draft, and brief, usually consisting of no more than ten minutes of focused free writing"(Atwell, 1990, p. xii). Learning logs encourage students to reflect and interact with the content they are studying and thus, can improve academic achievement by giving children a chance to clarify their thinking and record facts and events(Walley, 1991, p.151).

Walley(1991) states that logs use three levels of writing ability and challenge. They start by having students write simple lists and short phrases. The second level is writing that uses sentences and simple paragraphs. This third is for children who have promising



entries and wish to take that writing into a published form. These steps are a way of helping children who are uncomfortable with formal writing experience a sense of accomplishment and completion(Walley, 1991)

Anne Thompson(1990b) uses learning logs to help promote critical thinking skills. She collected and analyzed children's log entries and found that she could categorize their entries into seven heading: focusing, gathering, remembering, organizing, predicting and elaborating, integrating, and evaluation(p.36). In doing this, Thompson(1990) found that "logs helped my students focus on information, record it, and retrieve it when they discovered they needed it. Logs brought them together as a learning community and nudged them to take an active stance as learners"(p.60)

Journals are another source of informal writing in the content areas. Charlene Vaughan(1990) uses a double-entry journal, called DEJ for short, to encourage her students to connect new learning to what they already know. She uses a spiral notebook for each student and instructs students that the pages on the left of the spiral are for collecting and recording raw data and that the adjacent page is for reflecting on those ideas(p.69). Vaughan(1990) compares DEJs to knitting and says that:

Ultimately, double-entry journals are like the first stitches novices knit on large needles. In their DEJs, students knit new information and different perceptions. If they see a

skipped stitch, they can retrace their steps and make a new pattern. And they can connect thought strands and weave words to construct their own meanings(p.75).

Anne Thompson(1990a) has her students write math letters to her similar to the dialogue journals they write in reading. These letters must be about math and the students as mathematicians. She found that in their letters, students extended their critical thinking skills as "they analyze, synthesize, and describe their reasoning.

Another type of informal writing is having students write from the point of view of historical characters. Glenda LoBaugh(1989) has her students write four types of letters: simulated, persuasive, information-sharing, and information-seeking(p.9). She uses literature to introduce students to characters and events in history. Through writing letters from the viewpoint of characters, students are able to organize new knowledge and then share it with others. In addition, this process allows students the opportunity to explore their own feelings and beliefs which in turn will lead to decision-making and good citizenship(LoBaugh & Thompkins, 1989).

## ASSESSMENT

An integral part of curriculum planning is making decisions about how to assess what students are learning. This also must be consistent with a teacher's theoretical foundation. In order to be consistent with the philosophy of this project, assessment should be

based on daily authentic language experiences and it should be consistent with what is known about language learning(Routman, 1991). For assessment to be meaningful it needs to occur in a naturalistic framework. In other words, "the observation, activity, test, or task must be relevant, authentic, and part of the teaching-learning process by informing the learning and furthering instruction"(Routman, 1991, p.305).

Bill Harp(1991) extends these ideas further. He sets forth twelve principles that guide whole language teachers in their choices of assessment techniques. Four of these are especially relevant to this project:

- 1) Assessment and evaluation strategies must honor the wholeness of language: Assessment strategies...must honor the communicative nature of language in all of its forms.
- 2) Teacher observation is at the center of assessment and evaluation: Teacher observation of children at work is at the heart of assessment
- 3) Assessment and evaluation instruments are varied and literacy is assessed in a variety of contexts: In addition to appropriate tests, whole language teachers use work samples
- 4) Assessment and evaluation are integral parts of instruction: Whole language teachers recognize that the best assessment occurs while teaching(p.36-48).

Assessment in a whole language classroom will have certain goals. Assessment practices need to involve students. If students are

to develop into independent thinkers and learners, they must have the skills, knowledge, and confidence to evaluate their own processes and products. Effective classroom assessment programs include students as active participants in forming decisions about what will be assessed and how it will be done(Tierney, Carter, & Desai, 1991).

Assessment in this context is child-centered and often consists of anecdotal and observational records kept by a teacher. Assessment can also consist of teacher-made tests that have open-ended questions which children can answer to show what they, as individuals, have learned. An important component of assessment in a whole language classroom is self-assessment, in which children are encouraged to analyze their own attitudes and processes so they can use that information for continued growth and learning(Routman, 1991).

There are several methods teachers can use that are consistent with the philosophies mentioned above. These include anecdotal records, teacher-made tests, self-evaluation, and learning logs. Routman(1991) does a thorough discussion of all of these methods. This is not an inclusive list, but rather it should be thought of as a place to start. A point to remember is that "assessment needs to be meaningful, multimodal, and ongoing and must occur in authentic contexts"(Routman, 1991, p.303).

Yvonne Siu-Runyan(1991) suggests several methods of holistic assessment of students in the middle grades. These include talking with students, using anecdotal records, involving students in long-term

projects, learning from student portfolios, and observing students using reading and writing(p. 110). These holistic techniques can not only help teachers plan meaningful instruction, but can provide a means for students to evaluate themselves as readers, writers, learners, and thinkers.

These methods are a few ways that teachers can assess their students. They can be applied specifically to the activities related in this project. Teachers should consider the appropriateness of the methods in relationship to grade level and student development when choosing a mode of assessment.

## CONCLUSION

In conclusion, curriculum consists of three interrelated components: theory, instructional practices, and assessment. Research supports using a whole language theoretical background in a content-area writing curriculum. For teachers who already have this theoretical foundation it is a natural step to extend certain writing activities into their social studies, science, and math classes. Assessment techniques that these teacher use already can easily be transferred to evaluating students' progress in the content areas.

## GOALS AND LIMITATIONS

### GOALS

There are three major goals for this curriculum project. The first goal is that this curriculum will provide a way for teachers to extend the writing process into their social studies, science, and math classes.

The second goal is that this project will show teachers alternative approaches to formal writing in the content areas, and by doing so allow students to learn to write expository texts in their own voices.

The third goal for this project is to help students come to the realization that writing is an important tool and one that should be used in a variety of contexts to help with learning.

### LIMITATIONS

Certain limitations need to be addressed in this curriculum project.

First, the instructional and assessment practices are presented from a whole language perspective of reading and writing. In order to use this curriculum effectively, a teacher will need to have a theoretical background consistent with this.

Second, writing workshop is a fundamental component of this project. The curriculum described here is intended for teachers who already have a writing workshop approach in place in their classrooms.

Third, the lessons and instructional practices are prepared with little student input. Changes may be made to adapt them to suit the characteristics of a particular group of students.

Fourth, this curriculum was designed for teachers of grades five through eight. Many of the activities can, however, be adapted for use in other grade levels providing the teacher takes into account the developmental level of the students.

Last, this curriculum is written from the perspective of a self-contained classroom. Teachers in departmentalized middle schools or junior high schools will have to collaborate with colleagues in order for some of these activities to succeed.

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**APPENDIX:  
CURRICULUM FOR CONTENT AREA WRITING**

## INTRODUCTION

This curriculum is designed for use primarily by teachers interested in improving the quality and quantity of students' writing in science, social studies, and math. It is intended for use in grades 5 through 8, but any section can be adapted for use in any grade.

This curriculum has as its theoretical foundation that children are natural learners, that learning is a social process, and that assessment of this learning needs to be authentic and broad-based. All of the suggested activities and assessment techniques are designed to reflect this. It also is designed to take advantage of the current shift in belief in how written language is learning.

Currently many teachers have transformed their classrooms into reading and writing workshops. Those classrooms are exciting places to be during these workshops, however, many of these same teachers are still teaching math, science, and social studies in traditional methods where much of the learning is passive and students rarely engage in meaningful writing. In fact, most of the writing that occurs in science and social studies consists of short answer, fill in the blank, essay questions, and reports. Students rarely, if ever, have the opportunity to write in math class.

Fortunately, many of the same teacher/researchers who brought us reading and writing workshops have begun to publish and present many new and exciting activities to get students actively involved in

their own learning. In addition to this, current research shows the positive effects of having students write in all subject areas. Writing is a powerful tool which teachers can use to help their students analyze and synthesize their learning.

In this curriculum you will find suggested activities and lessons to be used in math, science, and social studies. There will also be a section that contains a variety of specific assessment techniques considered authentic.

## LEARNING LOGS

All grade levels

Learning logs are an informal, ungraded method of writing in which students are encouraged to reflect on what they have learned and to make connections between what they are learning and what has already been learned. They are also an excellent way for children to sort out what they understand and what is still confusing. Teachers can use students' logs to make adjustments to lessons based upon what their students need. Learning logs can be used in all three content areas in this curriculum.

Learning logs generally take the form of spiral notebooks. Some teachers have separate notebooks for all three subjects and some have one notebook that students write in for all subjects. One method that I have found effective is for each student to have a three subject notebook. That is, one notebook that has dividers for three subjects. This cuts down the volume of notebooks a teacher has to look through. If spiral notebooks are not feasible, loose-leaf paper can be stapled together with construction paper to make a learning log.

Teachers can use these logs before, during, or after a lesson; anytime a teacher wants to see what students are thinking. A question is presented to the class (referred to as prompts hereafter). The prompt is copied into the logs, along with the date, and then students are given 5-10 minutes to complete their answers.

The methods for reading these answers depends on the type of prompt. If the prompt is asking for a prediction before a lesson, the teacher may want all students to share orally while recording answers on a class chart. If the prompt is designed to have children reflect on current learning, the teacher may want to walk around and read answers as children complete them. Then the teacher could ask for volunteers to read their answers aloud. If the prompt is designed to check students' understanding of a concept, teachers may want to read students' entries after class in order to make adjustments to future lessons.

Learning logs can also be used to improve your students' critical thinking skills. Anne Thompson(1990b) discovered seven categories when she analyzed her students' log entries. These included: focusing skills-defining problems and setting goals, gathering information-recording what they know, what they need to find out, and what they want to remember, remembering-writing what they already know, organizing-writing to compare, categorize, and classify, and evaluating-writing to reflect and record thoughts about experiences(p.36-49). Learning logs allow students to become active learners, and when they write regularly, they become natural critical thinkers.

### SUMMARY

#### Materials

- spiral notebooks(or loose-leaf paper stapled together)



- date stamp(optional, however, this makes it easier for students to date their entries

### Methods

1. Make sure each child has something to use as their learning log.
2. Look for moments in your lessons, either before, during, or after, which are appropriate for getting students to record their thoughts on their learning.
3. Write the prompt on the chalkboard.
4. Students date their entries, copy the prompts, and then record their answers.
5. These answers are to be considered informal drafts and therefore, teachers should not require letter perfect entries.
6. Entries should be shared and checked in whatever way suits the teacher's purpose.

## SAMPLE PROMPTS

These prompts are some of the ones found in Nancie Atwell's(1990) book Coming to Know: Writing to Learning in the Intermediate Grades, Appendix B.

### MATHEMATICS

- Explain prime numbers to a friend.
- In two minutes, how many multiples of 11 can you list?
- Using a pencil and a protractor, draw three angles and measure them.
- Explain what the terms "parallel" and "perpendicular" mean to you.
- Make a list of ten items in the room that are less than six centimeter in length. List each item and its length.
- Find the height( in centimeters) of each person in your group. What is the average height for your group?
- Write down ten things you do every day and the times these things happen(e.g., "Get up: 7:15 A.M."). Then calculate the amount of time between each activity or event.

### SCIENCE

- Choose a habitat and draw it, including any living things found in it
- Write a short story that includes a food chain
- What would you do if you were left alone in a desert?
- How do you think desert plants survive?
- Describe how you think the earth moves.

- Why do you think the earth is hottest at the equator?
- What are some differences between natural light and artificial light?
- List ten things that will stick to a magnet and ten the won't
- How is the Earth like a magnet?
- In three columns, quickly list as many solids, liquids, and gases as you can think of.
- What do you think matter is? (Thirty minutes later, after a reading assignment: Now, tell me again about matter.)
- List all of the things you do or use every day that involve water.

### SOCIAL STUDIES

- List everything you know about ancient Greece. What would you like to know about ancient Greece?
- Pretend you are the son or daughter of a Spartan or Athenian warrior during the Persian Wars. Write either a letter or a diary entry telling your feelings.
- List ten questions that you'd like answered in our study of Rome.
- What would you be thinking to yourself if you were a member of Columbus's crew and you were just leaving port?
- What would you be thinking to yourself if you were Columbus, after being thirty days out to sea with no land in sight?
- List the names of the explorers we've read about so far. Which is your favorite?

- Do you think Charlemagne should have been called "Charles the Great"? Why or Why not?
- Why could the Middle Ages also be called the "dark ages"?

## MATH

### All grade levels

Of the three content areas involved in this curriculum, math remains the one in which it is most difficult to convince teachers of the importance of writing. Many math teachers, when asked to add writing to their curriculum, feel that they will be required to teach writing along with math. The activities in this curriculum do not require math teachers to teach writing, rather they are teaching techniques which can be incorporated into existing content. These writing strategies are designed as a way for teachers to help students learn and to assess if students are learning what they are trying to teach. Three categories of student writing will be looked at: logs, journals, and creative writing.

### LEARNING LOGS

In addition to those learning log prompts in the previous section, there are several other types of writing students can do in learning logs. These include open-ended writing tasks, guided writing tasks, and specific writing tasks. All response sheets in this section are from Margaret McIntosh(1991).

Open-ended writing tasks are those that ask students to reflect on their learning. Students write these responses in their logs. In addition, some teachers may want to have response sheets on which students record their answers. These sheets can then be stapled into

their learning logs. See figures 1 and 2 for examples of these types of response sheets.

Guided writing tasks have students answer slightly more specific prompts than open-ended tasks. The students' answers are based on newly presented concepts. See figure 3 for an example of a response sheet teachers can use. Students can also respond in their learning logs to the kinds of prompts shown in figure 3.

Specific writing tasks include "how-tos", "definitions", and "troubleshooting". How-tos are written explanations about how to do something—divide decimals, add fractions, find the area, etc. These how-tos can be written in the students' learning logs or on a response sheet similar to figure 4. When writing definitions, students explain or write their own definitions of mathematical terms. Definitions written in a student's own words increase the likelihood that these terms will be understood. When teachers read these types of log entries, they can look for misconceptions students have about what they have learned. Teachers are then able to identify areas that need reteaching. Troubleshooting is a type of response that allows teachers to find out what ideas students do and do not understand. In this writing task, students explain errors that they or their teacher identify. See figure 5 for an example of a response sheet that teachers can use. Responses can also be entered into learning logs.

Figures 1 through 5 are included as a means of allowing teachers to vary their techniques and continue to keep students motivated.



How Do You  
THINK YOU DID?

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figure 2

LEARNING LOG GUIDE

What new concepts did you learn/what new connections did you make?

Did you have an AHA? If so tell about it?

How can you be sure about the information you've learned today?

figure 3



**EXPLAIN IT TO ME**

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**figure 4**

**I'D LIKE TO EXAMINE  
YOUR THINKING**

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**figure 5**

## JOURNALS

Journals and learning logs have similar purposes. They both are intended to help learning and inform teachers about the learning that is taking place. The difference lies in the structure and form of response and in the response by the teacher. One way of using math journals in class is to structure them as dialogue journals. A dialogue journal is one in which students correspond with the teacher( in this case about math) and the teacher writes back to the students.

As with learning logs, students will need a notebook of some kind that will contain their letters. The only requirement with these letters is that students must write about math and themselves as mathematicians. In order for math journals to be successful, teachers must structure their math classes to allow time for students to choose to write in their journals. The number of letters teachers require is an individual choice, however, it is important to have a twenty-four hour turn around in returning dialogue journals. Therefore, teachers do not want to overload themselves by having too many journals to respond to in one night. One guideline to consider then, is to have students write a minimum of one letter a week, which can be written whenever students want to or need to. This should limit the number of journals to 5-6 per day.

## CREATIVE WRITING

Creative writing has a definite place in math class. This type of writing can help children gain confidence in their mathematical abilities through their strength in writing. This creative writing can be integrated into your writing workshop or it can take place during your regular math class.

This writing can take many forms, such as: stories and plays about mathematical concepts, research about mathematicians and the history of math which is then presented in a creative way, and mathematical story problems. All of these writing activities should follow the same writing process that is used in language arts. That is drafting, conferencing, revising, editing, and publishing,

To illustrate these steps mathematical story problems will be used. As with all other types of writing, it is important for teachers to model writing before students begin drafting.

### Step 1 Modeling

Teachers should model this writing by sharing a personal everyday experience involving math. For example:

At the grocery store checkout counter, I had a total bill of \$34.50. At the last minute, I remembered that I had several coupons in my purse. I pulled them out and saw that they were worth \$1.00, \$0.50, and \$0.35. The store also offered double coupons.

After writing the story on the board, the teacher should invite the students to suggest possible questions from this anecdote. Possible questions could be:

- How much did I save?
- How much was the new total?
- How much was the total if I could only use the \$1.00 and \$0.35 coupons?

### Step 2 Drafting

To begin the drafting process, students should be encouraged to write down a list of potential topics that they could use in mathematical stories. Teachers need to encourage students to pay attention to everyday events that they are familiar with. Once this list has been generated, students can pick those topics they wish to write mathematical stories and problems about.

### Step 3 Conferencing

Conferencing can take several forms: one-to-one with the teacher, peer conferences with one other student, or small group conferences consisting of 3-4 students. The purpose of these conferences is to share the stories, clear up any confusion, defend the solution, ask for help, and get ready to revise.

### Step 4 Revising

After students conference about their stories, they should be encouraged to take their stories back to revise and draft again to make them clearer to others. This process of drafting, conferencing, and

revising should happen as many times as necessary; until the writer feels that the stories are complete.

#### Step 5 Editing

The first step in editing is for students to self-edit their own writing by correcting as many of their own mistakes as they can. This editing should have the same format as self-editing in writing workshop. After self-editing, the teacher finishes the editing by correcting the remaining mistakes. Teachers should take advantage of any teachable moments by teaching one or two skills to individual students as the need arises.

#### Step 6 Publishing

The final step in this process is to publish the student written mathematical story problems. Publishing can take any form the students and teachers wish. Two suggestions are worksheets and a story problem file box.

For the worksheets, students are allowed to pick their best story which is then published on a worksheet. These worksheets are then used when students practice problem solving skills.

A story problem file box is a card file of student generated problems. After a student's problems have been edited, they copy individual problems on to index cards. The solution is printed on the back, along with the student's name. These cards are then placed in a file box either according to operation or mathematical concept. Students are encouraged to solve problems from the box. They are

able to check their solution against the author's and if there are any conflicts the two can discuss them.

The purpose in writing mathematical stories is to get students to reflect on math in their everyday experiences and write problems and questions about these experiences. Although students are allowed to write about any topic, the mathematical content generally reflects the current textbook topic. For example, if students are learning about measurement, their problems generally contain measurement concepts and ideas.

The preceding lesson is a synthesis of articles by Ford(1990) and Silverman, et al.(1992). See references for complete citations.

## SCIENCE

### All grade levels

According to the National Council of Teachers of English, from fifth grade on, more writing will occur in science than in any other subject(cited in Scarnati & Weller, 1992). This is because recording observations and reporting on laboratory experiences are part of the basic curriculum. Teachers of science can take advantage of this fact and engage students in meaningful activities that get them to relate their writing to science inquiry skills.

### LEARNING LOGS

In addition to the types of learning log prompts in the previous section, there are many other uses of these logs. Students can use them to record observations of experiments after recording predictions. They can then write a summary of what happened and how that was different from their prediction. Logs can also be used as field journals that students take with them to record observations in nature or on field trips. On returning to class, students can take those observations and compare them to what has already been learned.

Another use for learning logs is to set them up as double entry journals(DEJs) These are set up by using the pages to the left of the wire binder for notes, drawings, diagrams, etc. The pages to the right of the binder are for analyzing and synthesizing those ideas. An example of using this in class could be during a unit on batteries and

circuits. The left side of the journals would be for battery drawings and the right side for "What was learned". As students experiment with wires, bulbs, batteries, and other conductors, they draw their observations any time a bulb lights up. They can then record any conclusions and hypotheses on the right hand pages. This type of activity results in high involvement and lasting understanding by students. The activity is from Maxim(1990).

#### REPORT WRITING

Writing reports in science can take on new meaning when it is incorporated into a teacher's writing workshop class or when it follows the same process as that writing does. That is, drafting, conferencing, revising, editing, and publishing. As with any new concepts, it is important for a teacher to model for the students before expecting them to work on their own. One way to accomplish this is to pick a topic and model each step in mini-lessons before having students try it themselves. This process works for any topic.

##### Step 1 Research

After students pick a topic to research, they need to learn how to take notes. It is important to model and practice this technique so that students feel comfortable and do not resort to plagiarism. Students should first generate a list of questions(10-20) that they want answered about their topic. These questions, as well as any notes, can be kept in the students' learning logs, journals, or separate folders. The most important rule in this process is that students never read and write at



the same time. This will keep them from succumbing to the temptation of copying from the book. Students read from a variety of sources. After reading, students put the books away and then write notes about what they remember. They are allowed to look back at the books to check facts or spellings. Then students look at their questions to see what has been answered and what still needs to be answered. This process continues for as long as students need.

### Step 2 Drafting

As soon as students are finished researching, they begin the drafting process. The form that their draft takes will depend on the format of the final product(see publishing). These genres should be presented in mini-lessons before students begin drafting. Students may find that they need to do more research once they actually begin writing.

### Step 2 Conferencing

Conferencing can take whatever form a teacher wants. These can be individual, peer, or group conferences. The purpose of a conference is to present the draft and get response on the content, not the mechanics. Any confusion or possible incorrect facts need to be pointed out so that writer can check them out and clear it up in the next draft.

### Step 3 Revising

After a conference, students will need to revise and write a new draft based on the feedback they received. This process of drafting, conferencing, and revising takes place as often as needed until the writer is satisfied with the content.

### Step 4 Editing

The first step in editing is for students to self-edit their own writing by correcting as many of their own mistakes as they can. This editing should have the same format as self-editing in writing workshop. After self-editing, the teacher finishes the editing by correcting the remaining mistakes. Teachers should take advantage of any teachable moments by teaching one or two skills to individual students as the need arises.

### Step 6 Publishing

Publishing student work is a vital component. There are many formats or genres available that go beyond the traditional report. These genres allow students to report what they know in an interesting form and in their own voices. Some options are

- acrostic poems-using the concept being reported on
- Books-picture, coloring, textbooks, how-to, alphabet, pop-up
- Calendars-each page with a drawing and an annotation
- Bulletin boards-drawings and photos with text

These genres are from Coming to know: Writing to Learn in the Intermediate Grades, 1990, Appendix A. The preceding strategy is a summary of Maxim(1990) and Collins(1990).

### FIRST PERSON SCIENCE

Another option for report writing in science is to assign each student the task of researching a scientist of their choice. The steps in this project are the same as in report writing. The difference lies in the publishing. Students are to report their findings in the first person, becoming their scientist. It will be necessary to do mini-lessons and modeling of this genre of writing. As a culmination to this project, students can come to school dressed as their scientist and share their work. The activity is an adaptation of Teppen & Rinker(1988).

### CARE MANUALS

This activity fits in with a unit on life science. The students would be involved in an "Adopt-A-Mammal" unit. The students' final product is a care manual for a mammal of their choice.

Students begin by examining care manuals for pets they have at home in order to become familiar with this format. A chart is generated with all of the components. Students are allowed to "adopt" any mammal they want and then they are invited to write their own care manual.

Students' writing should follow the same format discussed in report writing. The questions generated by students should relate to their animal and the components necessary to complete the manual. After drafting, conferencing, revising, and editing, students' manuals should be bound into books. These books are then presented to the class. This activity is from Matz(1990).

#### LETTER WRITING

Writing letters is another way for students to express their science knowledge. The activity is from Maguire(1992). This activity takes place after a unit of study relating to plants.

A visitor comes to class and calls himself Mr. I. M. Treeless and complains to the students about trees. He claims that there is no single good use for plants and trees and that he and his friends are hoping to introduce a bill in the legislature that will make tree illegal. Then he exits the room.

After he leaves, the teacher assigns the students, individually or in groups, to write letters to Mr. I. M. Treeless and the state legislature stating the case for plants and trees based on what they know. This activity allows students to synthesize what they have learned in a writing assignment.

#### BIG BOOKS

This is yet another strategy for students to use when writing about nonfiction topics. This process uses the same steps in writing as

the others, with the teacher modeling the first chapter and groups of students finishing it. This activity is from Snowball(1989).

Step 1- Pick a topic of interest to students and have them suggest words that are related to the topic. Then create a semantic map.

Step 2- Classify these words into categories related to the topic. These categories will be the basis for the chapters in the book.

Step 3- Pick a category to work on as a class. The class works together gathering new information by first listing what is known, then what they want to learn, and then how to find the necessary information. That information is then gathered in note form.

Step 4- With the teacher modeling the appropriate organization of a nonfiction book with headings and subheadings, the class integrates the new knowledge and prior knowledge and writes the chapter. After revising, deleting information, researching and adding more information, the final copy is written on large sheets of paper to be part of the class book.

Step 5- Groups of students then pick the other categories and follow the same procedure as in steps 3 and 4.

Step 6- When all groups are finished, gather all the pages of the book together and decide on a title. Then have the students complete things like a table of contents, glossary, index, etc. Use other books as models.

Step 7- The final product is then bound as a big book and can be shared with other classes.

## SOCIAL STUDIES

All grade levels

Social studies is a logical place to integrate content area study and writing because of the vast quantity of quality literature available to draw on. However, many teachers do not take advantage of this and instead assign state, country, or person reports that turn out to be little more than plagiarized accounts of an encyclopedia. This section is an attempt to show teachers a variety of strategies to enhance their social studies writing curriculum.

### LEARNING LOGS

Learning logs can be used extensively in social studies to assist students in making connections between what they have learned and what they already know. In addition to the sample prompts listed earlier, students can use logs to keep research notes, compare and contrast presentations, organize information, etc. Any type of writing that encourages students to reflect on what they know and don't know is appropriate.

Another activity students can do in their learning logs is simulated journals (from Young & Marek-Schroer, 1992). In these journals, students assume the role of another person and write from that person's point of view. This writing can be done after group lessons or after students have researched a historical figure. This activity will

allow students to gain insight into other people's lives and to learn how to take on a take one a new perspective.

### REPORT WRITING

Report writing in social studies is similar to that in science. Students go through the same process of researching, drafting, conferencing, editing, revising, and publishing. An effective strategy to help keep track of what individuals students are doing is to use a status of the class check(Atwell, 1987). This allows a teacher to see at a glance how students are progressing(see fig. 7). Here is a summary of the steps involved in report writing.

#### Step 1 Researching

Students pick a topic, generate questions about that topic, and begin reading to find the answers. At no time do students read a book and write at the same time. This keeps them from copying passages word for word. The researching phase takes as much time as individual students need.

#### Step 2 Drafting

Students use their notes to write drafts. The form of these drafts depends upon the format of their final product(see publishing).

#### Step 3 Conferencing

Conferencing with a teacher, peer, or group allows the writer to get response on the content of their draft. The response should address areas of confusion and possible misinformation and provide the writer with ideas for revision.

#### Step 4 Revising

Students use suggestions from their conferences to revise the original draft or write a new draft. Steps 2 through 4 are repeated as many times as a student needs to become satisfied with the content.

#### Step 5 Editing

This process begins with self-editing. Students edit their own papers for as many errors as they can find. The teacher then finishes by correcting the remaining mistakes. Teaching one or two skills from the edited work is a way to help students improve their writing skills.

#### Step 6 Publishing

Publishing is an important culmination of this process. There are many formats or genres available that go beyond the traditional report. These genres allow students to report what they know in an interesting manner. Some options are:

- Books-picture, coloring, textbooks, how-to, alphabet, pop-up
- Calendars-each page with a drawing and an annotation
- Bulletin boards-drawings and photos with text
- Journals- recollections of a person of the time
- Letters- correspondence between real or imagined historical figures
- Newspapers- articles covering events, ads, recipes, etc., of the time
- Catalogs- annotated pictures of items available in that time



These genres are from Coming to know: Writing to learn in the intermediate grades, 1990, Appendix A. This strategy is a summary of Maxim(1990) and Collins(1990).

#### STATUS OF THE CLASS

	Mon.	Tues.	Wed	Thurs.	Fri.

d.1=draft 1, d.2=draft 2, etc. res=teacher response ed  
 con./rewrite=editing conference w/teacher, then rewrite s.e.= self-  
 editing p.e.= peer editing peer con.= peer conference w/student's  
 name

figure 6

#### LETTER WRITING

These letter writing activities are from LoBaugh & Tompkins(1989). They are completed after students read quality historical fiction related to the time period being studied. There are four types of letters students can write: simulated, persuasive, information-sharing, and information-seeking.

### Simulated

These letters are similar to simulated journal entries. After reading historical fiction, students write letters from one character in the book to another character. Students gain perspective and learn to relate events.

### Persuasive

In these letters, students also assume the role of characters in books. Students write letters to other characters expressing a point of view and trying to convince the other person to change theirs. Students can learn persuasive techniques such as logical reasoning and propaganda.

### Information-sharing

Students write letters to parents, teachers, and other students to share information from books they read. They share setting, plot, characters, and a recommendation about the book. Students are also encouraged to include factual information contained in the book. These letters and notes allow teachers to check for understanding.

### Information-seeking

Students write these letters to request information from museums, historical societies, authors, etc. This type of letter writing teaches students the importance of writing clearly and correctly.

## POSTCARDS

This activity, which is a variation on letter writing, is from Miller, et al.(1992). These postcards are written after students have read biographies of people they are studying in history. Students write imaginary messages on postcards from the point of view of historical figures. These postcards can be addressed to appropriate contemporaries or across time to others who have similar experiences.

When starting this activity, students first use the cards to record pertinent information as they read. Then students read through their cards and pick the most important events and justify their choices. Next students write about these events in an appropriate style that the subject would have used. Students can create picture postcards by drawing a picture on the opposite side of the message. These postcards can then be published into a book or photo album.

## QUESTION-AND-ANSWER BOOKS

Question-and-Answer books are another format for children to use to publish nonfiction information. This is an easy format to use because it is a loose, fairly unconstrained way to organize information. This activity is from Zarnowski(1991).

Step 1-Students pick individual research topics that fit into the large topic of study.

Step 2-Students develop research questions(5-6). At least one of these original questions must involve hypothesizing about what might have

happened instead of reporting what actually occurred. These questions serve as a guide for students' reading and information gathering.

Step 3-Students research and gather notes in a similar fashion as report writing.

Step 4- Students need to examine several question-and-answer books to develop a chart of the features of these books.

Step 5-Students draft, conference, revise, edit, and publish in similar methods discussed in report writing.

These books allow children to explore topics and questions that interest them. They also show students that history is more than just receiving information. It is also about finding out about the past and making sense of it.

#### RAFT

This activity is from Young & Marek-Schroer(1992). RAFT stands for role of the writer, audience for whom the writing is intended, writing format, and topic. RAFT allows students to write directly to an audience in a specific format, using an identified topic.

Some possible RAFTs for students studying the Civil War, the Revolutionary War, and Egypt are:

**R:** Abolitionist

**A:** Northerners

**F:** Editorial

**T:** Why people should financially support the  
underground railroad

**R:** Tory

**A:** Rebels

**F:** Announcement

**T:** The closing of Boston Harbor and other  
repercussions from the Boston Tea Party

**R:** Egyptian slave

**A:** Pharaoh

**F:** Complaint

**T:** The dangerous working conditions at the  
pyramids

As students become familiar with the format, they can create their own  
RAFTs.

## ASSESSMENT

In a traditional, skills-based classroom, assessment is teacher directed and often is not a true reflection of what students know. This assessment often takes the form of standardized tests, district mandated tests, norm-referenced and criterion-referenced test scores.

Assessment in the context of this curriculum will look completely different. It is child-centered and often consists of anecdotal and observational records kept by a teachers. Assessment can also consist of teacher made tests that have open ended questions which children can answer to show what they as individuals have learned. An important component of assessment in a whole language classroom is self-assessment in which children are encouraged to analyze their own attitudes and processes so they can use that information for continued growth and learning(Routman, 1991).

Discussed here will be several methods that teachers can use in their classrooms. This is not an inclusive list, but rather should be thought of as a starting point. A point to remember is that whatever the assessment techniques used, they need to be authentic and varied. Assessment of learning should not be based on just one measure. Some suggested methods are: anecdotal records, teacher-made tests, self-evaluation, learning logs, and writing folders.

Anecdotal records are dated, informal, observational notes. These are generally brief comments that are specific to what the child is doing. One method of keeping these records is to keep a three-ring binder with a page for each child. Post-it notes or mailing labels are easy tools to use to record observations. These can then be transferred into the notebook at the end of the day. To keep it manageable, pick five to six students a day to observe and concentrate on.

Teacher-made tests are another option. These are often essay tests on the major concepts of a topic being studied. The questions should be open-ended and give the students a chance to demonstrate their knowledge of the subject. Sample essay questions could include:

- Name five facts you learned about \_\_\_\_\_.
- Choose a presentation you observed and tell what you learned?
- What else would you like to know about this topic?
- What did this unit cause you to think about?(Routman, 1991, p.335)

Another option with open-ended tests would be to let groups of students generate their own questions and then allow students a choice of which questions they would like to answer.

Self-evaluation is a critical component of assessment. Self-evaluation procedures should increase students' awareness of attitudes, strengths, weaknesses, and areas needing improvement(Routman, 1991). These self-evaluations can take many forms: individual evaluation forms, group evaluation forms, weekly evaluation forms, and student responses to teacher evaluation questions. See figures 7-

11 for several examples of various types of self-evaluation forms that teachers can use.

Learning logs are another component of self-evaluation. The purpose of learning logs is to help children see the relationship between themselves and the topics they are studying. See the previous section on learning logs for a more thorough discussion.

Writing folders are another way to assess students' progress. Writing generated in content areas can be kept in students' ongoing writing folders or in separate ones. This writing can be examined for evidence of progress in writing skills, finding connections in topics under study, and mastery of topics.

These methods are a few ways that teachers can assess their students. They can be applied specifically to the activities related to this project as well as any other units of study. Teachers should consider the appropriateness of the methods in relationship to grade level and student development when choosing a mode of assessment.



**SELF ASSESSMENT FORM**

**Name:**

**Date:**

**Unit:** \_\_\_\_\_

**Project:** \_\_\_\_\_

**While doing this project I:**

**Things I know about now that I didn't know about before completing this project:**

**I still want to work on:**

**Something I would change about this project is:**

**Because**

figure 7

SELF-EVLAUTION

STUDY PROJECTS

Name:

Project:

Date:

\_\_\_ individual evaluation

\_\_\_ group evaluation

1. Briefly describe your project.
2. How cooperative were you while working on this project?
3. What was the best thing that happened while working on the project?
4. Do you think the time working on the project was well spent?
5. What did you learn doing this project that will help on you next one?
6. (Your question)
7. Your grade \_\_\_\_\_ Group grade \_\_\_\_\_

Comments:

figure 8

### SELF-EVALUATION FORM

5=always, 4=almost all of the time, 3=sometimes, 2=occasionally,

1=never

- 1. I get my learning log and book and am ready at the beginning of the hour.
- 2. I get quiet and am listening for my teacher's directions.
- 3. I listen when directions are given.
- 4. I write thoughtfully in my learning log.
- 5. I date my entries.
- 6. I stay on task.
- 7. I discuss my entries in my group and listen when others talk.

The grade I deserve is \_\_\_\_\_. (O=outstanding, S=satisfactory,  
U=unsatisfactory)

Now, tell why you should receive this grade.

What is your goal for next week, to improve your grade or make you a better participator?

figure 9

GROUP ASSESSMENT FORM

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Unit: \_\_\_\_\_

Activity: \_\_\_\_\_

The complete project the group did was?(circle one):

very good

good

fair

poor

Why?

What the group did best was:

My contributions to the group were?(circle one):

very good

good

fair

poor

Because:

What I like best about working in this group was:

figure 10

WEEKLY EVALUATION

Name:

Date:

This week I learned:

What was most important to me this week was:

I did very well:

I am confused about:

I still need work on:

Student signature \_\_\_\_\_

Parent signature \_\_\_\_\_

Teacher signature \_\_\_\_\_

figure 11

Routman, R. (1991). Invitations. Portsmouth, NH: Heinemann Educational Books, Inc., p.352.

## CONCLUSION

These strategies and techniques are just some of the many ways teachers can improve the types of writing activities that students participate in during math, science, and social studies. This is by no means a conclusive list. The purpose of this curriculum is to get teachers and students started and from there teachers can make exciting innovations on their own. It is hoped that once teachers discover the exciting possibilities of introducing these writing strategies, they will eagerly seek out others that are similar.